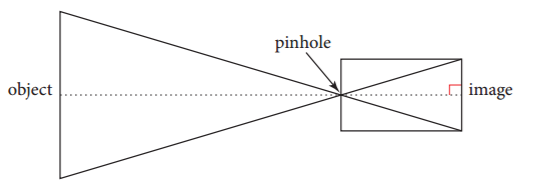
Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TP: \_\_\_\_\_\_\_

CW 55: Similar Triangles Day 2

**Honors Geometry**

1. A pole 3 m tall casts a shadow 4 m long. A nearby tree casts a 15 m shadow. What is the height of the tree?
2. Elizabeth’s eyes are 150 cm from the floor. She places a mirror on the floor 18 m from the base of a climbing wall. She walks backward 120 cm, until she sees the top of the wall in the mirror. What is the height of the climbing wall?
3. On a sunny day José’s shadow is 2.9 m long, while the shadow of a tower is 11.3 m long. If José is 1.8 m tall, calculate the height of the tower.
4. Two ladders are leaned against a wall so that they make the same angle with the ground. # e 10' ladder reaches 8' up the wall. How much further up the wall does the 18' ladder reach?
5. At a certain time of the day, the shadow of your friend who is 5 ft. tall measures 8 ft. At the same time, the shadow of a tree measures 28 ft. Draw a diagram to represent the situation. How tall is the tree?
6. Light travels in a straight line. The pinhole camera, or camera obscura, makes use of this fact. When rays of light reflect off an object, and pass through the pinhole in a camera, they cross and form an upside-down image.



An object is 3.6 m from the pinhole. Its image is 4.2cm from the opposite side of the pinhole. The height of the image is 0.8cm. What is the height of the object?

1. If a 42.9 ft tall flagpole casts a 253.1 ft long shadow then how long is the shadow that a 6.2 ft tall woman casts?
2. Georgetown and Franklin are 9.7 in apart on a map that has a scale of 1.1 in : 15 mi. How far apart are the real cities?
3. To measure the height of a building, Brandon has his brother Michael stand so that the tip of his shadow coincides with the tip of the building’s shadow. Michael is 1.4 m tall, and is 3.4 m from Brandon, and 7.6 m from the base of the building. Determine the height of the building, DE, to the nearest tenth of a meter.
4. Find the distance between Riverside and Milton if they are 12 cm apart on a map with a scale of 4 cm : 21 km.
5. A model house has a scale of 1 in : 2 ft. If the real house is 26 ft wide then how wide is the model house?

**Homework – Ratios & Proportions**

1. If Mr. Gerbertravels 65 miles per hour, how long will it take him to reach Green Bay, 211 miles from Chicago?
2. If a call to Mexico costs 1.5 cents per minute, how many minutes of talk will a $5 allow?
3. If I buy 20 lottery tickets, what are my chances of winning?
4. Allie’s foot is 21 cm long, and her mother’s is 24 cm long. If Allie’s mom is 152 cm tall and Allie is 133 cm tall, who has the bigger foot proportionally?
5. Muchin’s 10th grade class has 101 boys and 117 girls. What is the ratio of boys to girls? What is the ratio of girls to the entire class? What percentage of the class is girls ?
6. An isosceles triangle has a ratio of interior angles of 3:6. Draw and label the triangle.
   1. What are the values of all angles if the base angles are smaller than the vertex angles? (Check your work – what should be the sum of the interior angles of the triangle?) **base 45, vertex 90**
   2. What are the values of all angles if the base angles are larger than the vertex angles? **b 72**
7. If the ratio of the perimeter of a square to its area is 1:2, what is the side length of the square? **Side**

